

REMARKS

Claims 2-4, 6, 8, 11-15, and 18-26 are pending in the present application. No claims are amended herein. Applicant respectfully submits that each of these claims is allowable.

Claims 2-4, 6, 8, 10, and 18-26 have been rejected under 35 U.S.C. § 102(e) as assertedly being anticipated by Smith (U.S. Pat. No. 5,944,537, hereinafter "Smith").

Claims 11-15 have been rejected under 35 U.S.C. § 103(a) as assertedly being unpatentable over Smith. Applicant respectfully traverses these rejections.

Claim 6 recites a probe needle that includes "a substantially linear elongated member." Smith simply does not teach or suggest a substantially linear member. Contrary to the assertions of the Office Action, Smith merely teaches and suggests a contact member that is always curved before contact with any device; the contact member in Smith is never *substantially* linear when not in contact with any device.

The Office Action proposes, with regard to Applicant's arguments of 11/28/05, that Smith discloses a substantially linear elongated member. Based on this proposition, the Office Action rejects arguments. Applicant respectfully traverses this rejection, and refers to the following statements from Smith as supporting Applicant's arguments of 11/28/05:

Each spring contact 15 is formed such that a stress gradient ... is introduced into the spring contact... When the spring contact 15 is formed, the metal layer comprising the spring contact 15 is deposited such that compressive stress is present in lower portions of the metal layer and tensile stress is present in upper portions of the metal layer... The stress gradient ... causes the spring contact 15 to bend into the shape of an arc having a radius  $r$ .

Smith, col. 5, l. 46-57.

These statements *cannot* be read to imply that the free portion of the metal strip is substantially linear before contact and bends only after contact, as stated in the Office Action. As is clear from the equation presented in column 5 of Smith, the member is substantially linear (i.e., radius  $r = \infty$ ) *only* when the inherent stress gradient  $\Delta\sigma$  is zero. Smith, col. 5, eq. (1). However, the whole point of the invention in Smith is to create a contact member by inherent stress gradient, which is *not* zero. Smith, Abstract ("an inherent stress gradient in the spring contact causes a free portion of the spring contact to bend up and away from the substrate.") Therefore, a substantially linear member as disclosed in the present application, with radius  $r = \infty$ , is not taught, suggested, or remotely disclosed by Smith.

Further, the invention in Smith "also provides an elastic spring contact having an *inherent stress gradient* that causes the free portion of the spring contact to *bend away from a substrate* to form a "shepherd's hook" shape." Smith, col. 3, l. 51-54 (emphasis added). If a member has an inherent stress gradient then it *cannot* remain substantially linear in the absence of external forces. See Smith, col. 5, l. 40-45 ("a strip of metal having no inherent stress gradient inherent in the metal will lie flat... Likewise if a uniform stress gradient ... is introduced into the flat metal strip, the metal strip will bend into an arc shape.")

Smith further points out that the free portion remains *curved up* even after annealing the spring contact. Smith, col. 8, l. 25-26. Thus, the Office Action is incorrect when it states that the elongated member is linear when it is not in contact with the device. Smith makes it clear that the elongated member is curved before contact with any device. Smith, figs. 6, 11, 12, 23, 28.

Therefore, it is respectfully submitted that claim 6 is allowable over the references of record.

Claims 2-4, 8, 21-23 depend from claim 6 and add further limitations. It is respectfully submitted that these dependent claims are allowable by reason of depending from an allowable claim as well as for adding additional limitations.

Claims 11-15 are rejected under 35 U.S.C. §103(a) as being unpatentable over Smith. Applicant respectfully traverses this rejection. Claim 11 cites, "wherein the coating with titanium and titanium nitride takes place *in situ*." *The Office Action apparently ignores this limitation in its rejection of claim 11.* Unlike in the present application, deposition of an adhesive layer and a hard coating layer over the contact tip of the probe needle in Smith is not *in situ*. Nowhere in Smith is there any suggestion that the adhesive layer and coating layer may be deposited *in situ*. In fact, these processes have to be consecutive processes in Smith because the adhesive layer is titanium, while the coating layer is gold. *See* Smith, col. 10, l. 16-26.

In reference to the arguments on page 2 of the Office Action, although Smith states that "any other conductive wettable material can be used," the layer referred to is a *wetting layer*, not an *adhesive layer*. Smith, col. 10, l. 11-12. Titanium as used in the present application, is in the adhesive layer; titanium nitride in the present application is the material analogous to gold in Smith. As a person with ordinary skill in the art would know, titanium nitride, unlike gold, is not a good wettable material, and therefore it is not interchangeable with gold. Moreover, the difference between using gold over titanium in consecutive processes and using titanium nitride over titanium in an *in-situ* process is

such that the subject matter as a whole would not have been obvious at the time the invention was made to a person having ordinary skill in the art.

Claims 12-15 depend from claim 11 and add further limitations. It is respectfully submitted that these dependent claims are allowable by reason of depending from an allowable claim as well as for adding further limitations.

Claims 18-20, and 24-26 are rejected under 35 U.S.C. §102(e) as being anticipated by Smith. Applicant respectfully traverses this rejection.

Claim 18 recites that “the test probe including a *substantially linear elongated member* to which is attached a contact tip.” (emphasis added). For the reasons stated above regarding inapplicability of Smith to a substantially linear contact member, Applicant respectfully submits that claim 18 is not anticipated by the references of record.

Claims 19, 20, and 24-26 depend from claim 18 and add further limitations. It is respectfully submitted that these dependent claims are allowable by reason of depending from an allowable claim as well as for adding additional limitations.

In view of the above, Applicant respectfully submits that this response complies with 37 C.F.R. § 1.116. Applicant further submits that the claims are in condition for allowance. No new matter has been added by this amendment. If the Examiner should have any questions, please contact Applicant's attorney at the number listed below. No fee is believed due in connection with this filing. However, in the event that there are any fees due, please charge the same, or credit any overpayment, to Deposit Account No. 50-1065.

Respectfully submitted,



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